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ABSTRACT

This practicum was designed to improve the speech reading skills of mainstreamed elementary students with hearing impairments in their school environments. A 3-month one-on-one comprehensive speech reading program utilized analytical, synthetic, and holistic approaches, incorporated communication and language instruction with videotaping and tracking techniques, and provided opportunities for four students to practice their speech reading skills in different conditions and distances. The Craig Lipreading Inventory was used as a formal evaluation. A variety of methods, including informal classroom evaluations, daily progress monitoring, and a questionnaire, was used to assess the students' performance. Analysis of the data indicated that students' speech reading skills did improve significantly. They felt more confident in their speech reading ability and relied on it more often to receive information as compared with baseline data obtained prior to the implementation of this program. Data from students' individual journals indicate students at times complained about the monotony of the analytical approaches of studying shapes and lip movements of different English phonemes. However, the exercises enabled the students to be more conscientious of their own articulation and helped them speech read better. The report discusses goals and evaluation instruments, solution strategy, intervention results, and recommendations. Appendices include re-implementation speech reading evaluations and the questionnaire. (Contains 40 references.) (CR)

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ED 437 757

A Comprehensive Speechreading Training Program to Improve the Speechreading Skills of Oral Hearing-Impaired Students in Their School Environments

by
Alice Stanley
Cluster 88

A Practicum I Report Presented to
the Ed. D. Program in Child and Youth Studies
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

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Abstract

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This practicum was designed to improve mainstreamed, oral, hearing-impaired students' speechreading (lipreading) skills in their school environments. A one-on-one comprehensive speechreading program that utilized analytical, synthetic, and holistic approaches, incorporated communication and language instruction with videotaping and tracking techniques, and provided opportunities for them to practice their speechreading (lipreading) skills in different conditions and distances was implemented daily for a 3-month period. The Craig Lipreading Inventory was used as a formal evaluation. A variety of methods including informal classroom evaluations, daily progress monitoring, and a questionnaire was used to assess the students' performance.

Analysis of the data indicated that students' speechreading skills did improve significantly. They felt more confident in their speechreading ability and relied on it more often to receive information as compared with baseline data obtained prior to the implementation of this program.

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Chapter I: Introduction

Description of Community

The practicum took place in three different schools that are in a metropolitan county public school system and that hearing-impaired students attend. These schools are located in the northeastern part of the county. The county is located in the southern part of a major multi-county metropolitan region of the state. The county is the third smallest county by land area in the state but has the sixth largest student population of any school system in the state (County Chamber of Commerce). The whole county, including these three schools, is a suburban community.

These three schools are made up of students with different socioeconomic, ethnic, and racial backgrounds. Most of them come from middle class families. As a result of an increase in the enrollment of minority students, the majority of the student population now consists of minority students in contrast with the statistics from 10 years ago when white students were the overwhelming majority (Ellerton & Earle, 1998). According to county school system statistics, the number of students with diverse ethnic, religious, and cultural backgrounds is on the rise. The school system has the fourth largest population of limited English proficient students in the state and their native languages represent approximately 53 different languages (Coltharp, 1997). Because of the students' diverse demographic backgrounds, the county school system is willing to embrace innovative approaches to teach students with diverse needs.

Writer's Work Setting

The writer's work setting is the three schools where four hearing-impaired students are mainstreamed. The mission and purpose of these schools in general is to provide

relevant, quality, educational opportunities that allow all students to develop the skills necessary to reach their maximum potential as responsible, productive citizens, and lifelong learners.

Although these schools serve many students with diverse backgrounds and special needs, there are only one or two hearing-impaired students in each of these schools. These hearing-impaired students have various degrees of bilateral hearing losses ranging from moderate to severely profound. One is in the third grade, one is in the fifth grade, and two are in the sixth grade. All of them are oral. They use speech to communicate. One of these students knows a little sign language because she was placed briefly in an environment where sign language and speech were both used before she was mainstreamed in the school she is enrolled in now. The rest of these hearing-impaired students know no sign language at all.

All of these hearing-impaired students are fitted with personal hearing aids. One student is fitted with a FM auditory trainer to be used in school, and one classroom is equipped with a Phonic Ear Easy Listening sound amplification system.

All of them are receiving resource services from the writer ranging from ½ hour to 1 hour a day in a combination of pullout and collaborative models. The pullout model is that hearing-impaired students are served one-on-one outside of their classrooms. The collaborative model is that hearing-impaired students are served by the writer in their own classroom environment alongside their regular-education teacher. None of their regular-education classroom teachers have any prior experience working with mainstreamed hearing-impaired students.

Most of the staff in these schools has some experience working with students in the special education program other than the hearing impaired and are familiar with the issues and concerns of serving special education students in a mainstreamed setting. The population of these schools is typical of many schools in this area in that it is very diverse with many different racial, ethnic, religious, and cultural backgrounds represented. One major concern among the staff is that the percentage of students who cannot read at their grade levels is on the rise. According to the staff, the increasing emphasis on language development and reading comprehension skills in the curriculum is the result of this concern (S. Singletary, personal communication, May 5, 1998).

Writer's Role

The writer is an itinerant teacher of the hearing impaired who served these hearing-impaired students in their mainstreamed settings. She is also the department head of the hearing-impaired program, a position that enabled her to allocate resources and obtain cooperation from other personnel to implement this practicum. The writer planned strategies and provided direct intervention to carry out this practicum. She also coordinated the efforts of the speech and language pathologists and classroom teachers to make sure that the implementation of this practicum was carried out in the whole school environment. The writer's responsibility also included monitoring students' progress, collecting and interpreting data, and evaluating the overall result of this practicum.

Chapter II: Study of the Problem

Problem Statement

The problem in this practicum was that the four, mainstreamed, oral, hearing-impaired students in these schools were poor speechreaders and often could not receive adequate information through speechreading.

Problem Description

These mainstreamed, oral, hearing-impaired students often could not read the writer's lips adequately when she was in their mainstreamed classrooms where she could not speak loudly for fear of interfering with class instruction or where there was significant background noise. Nor could they read their teacher's lips if the auditory input was not sufficient enough for them to hear. It was very important for them to learn speechreading because they did not use sign language, they could not rely on their hearing alone, and their hearing aids were not effective in a noisy environment. Their classroom teacher assumed that when they faced the teacher and watched the teacher's face, they could understand what was being said. In reality, they were poor speechreaders. Being able to read lips adequately would help them to be more effective in mainstreamed classrooms.

Problem Documentation

There was plenty of direct and indirect evidence indicating that these students were poor speechreaders. The information in two of these students' special education files, which include special education classroom teacher's folders (CRTs) and Individual Education Programs (IEPs), indicated that they needed to work on their speechreading skills.

Interaction with these students in their regular-education classrooms also revealed that they were poor speechreaders. An informal evaluation administered by the writer in their classrooms using phrases and sentences frequently spoken in the classroom revealed that each performed below a 45% accuracy level. Student A's accuracy level was 25 %; B's, 30%; C's, 40%; and D's, 35% (see Appendix A).

Form A of the Word Recognition Test of the Craig Lipreading Inventory (Craig, 1964) was administered to these students and the results indicated that each student scored below a 50% accuracy level. Student A scored 36%; Student B, 39%; Student C, 45%; Student D, 45%.

A questionnaire designed by the writer (see Appendix B) was administered to the students and the results revealed that on a scale of 0 to 10, these students had a mean score of 1.5 on how confident they felt about their speechreading skills and 2.5 on how often they relied on their speechreading skills.

All of this evidence supported the fact that they had difficulty speechreading phrases and sentences frequently spoken in the classroom, that they performed below 50% on word recognition in a formal speechreading evaluation, that they did not feel confident in using their speechreading skills, and that they did not rely on their speechreading skills to receive information routinely. In general, they were poor speechreaders.

Causative Analysis

The causes of these students' poor speechreading ability were investigated. One of the causes may have been due to false assumptions concerning their speechreading ability. They were assumed to be good speechreaders due to an age-old belief that the hearing impaired compensate for their hearing loss with the ability to speechread; therefore, they

had never been formally taught speechreading skills. Examination of the students' CRTs and IEPs gave little evidence that these students had ever been taught speechreading skills despite the fact that two students' IEPs called for the need to improve their speechreading ability. The students' answers to the questionnaire and informal interviews with their regular-education teachers also revealed that they had not been taught speechreading skills, as their classroom teachers assumed they were good speechreaders simply because they were hearing impaired.

Rather than being taught how to speechread, these students were encouraged to develop their auditory skills and to use assistive listening devices such as personal hearing aids, FM auditory trainers, and Easy Listening sound amplification systems to enhance their listening ability. Examination of these students' CRT and IEP files showed that auditory training and usage of assistive listening devices were emphasized, monitored, and implemented every year. The results from the questionnaire also revealed that they depended heavily on their listening ability to receive information.

Silverman & Kricos (1990) suggested that there is a high correlation between speechreading skills and language competence of hearing-impaired children. An examination of these students' speech and language files was conducted to determine if they performed below their age and grade levels. They all had moderate articulation, expressive language, and receptive language delay except for Student D who had a mild delay. They all received speech and language therapy for 30 minutes three times a week. These students' mildly to moderately delayed communication and language competence may have contributed to their poor speechreading ability (Yoshinaga-Itano, 1988). Thus, the lack of emphasis on and training in speechreading, the emphasis on auditory training

and auditory input as the most important modality to receive information, and these students' mild to moderate delays in language may have all contributed to their poor speechreading ability.

Relationship of the Problem to the Literature

Extensive literature review was conducted in the areas of the perspectives in speechreading and speechreading research, especially as applied to the hearing impaired. This was done to examine the relationship between the problem and information from the literature. More writings were published on this topic 10 or more years ago than in more recent years since the trend in the field of the education of the hearing impaired has swung to emphasizing either sign language usage or audition via listening-enhancing devices such as cochlear implants and amplification systems. However, speechreading remains a very important skill for the hearing impaired in their every day life because hearing aids may not be effective in certain environments and because not everyone they come encounter will know how to sign (Menchel, 1988; Nigam, 1987).

The age-old belief that the hearing impaired will compensate for their loss of hearing by developing good speechreading skills was not substantiated by the research. Beattie and Markides (1992) conducted research in Canada with 31 normal hearing children and 15 hearing-impared children and found no correlation between the degree of hearing loss and speechreading ability.

Hearing-impaired students attending three major metropolitan units for deaf students in an Australian state were evaluated for their communication competency through various communication conditions. The results indicated that their speechreading scores were the lowest in comparison to their scores in other communication conditions, excluding the use

of audition alone (Hyde & Power, 1992). Studies done in the Netherlands and the United States gave evidence that hearing-impaired children who have speech and language problems may have more difficulty in developing good speechreading skills (van Uden, 1988).

There are many factors that can contribute to the degree of speechreading performance. One of those is the talker's variance. It involves the familiarity the speechreader has with the speaker or the speed and style of the speaker. It had been proven to affect speechreading performance (de Filippo, 1988; Demorest & Berstein, 1992; Lesner, 1988).

All of this evidence from research and published journal articles indicated that children with hearing impairments in the United States, Canada, and Europe performed poorly when speechreading was the only modality used to receive communication. Therefore, the problems and causes faced by the writer's hearing-impaired students in regard to speechreading are not unique.

The studies done by van Uden (1988) and Hyde & Power (1992) explained that the emphasis on auditory training alone may have led to the students' inattentiveness to visual cues and contributed to their poor speechreading ability. While effective speechreading instruction and training are the keys to better communication and speechreading skills, the lack of training or inadequate training in speechreading is the cause of poor speechreading ability (Palmer, 1988; Silverman & Kricos, 1990). Silverman & Kricos (1990) and van Uden (1988) also suggested that there may be correlation between the students' speech and language competence, vocabulary development, and reading ability with their speechreading ability.

The scope of the review of the literature was mostly limited to journal articles and research studies on speechreading that were published within the past 10 years, while the review of the books and training programs was not limited by the publishing date. The conclusion drawn from the literature review is that emphasis on auditory training, a lack of instruction and training in speechreading, and poor language and reading competence can all contribute to the poor speechreading skills of hearing-impaired students in the writer's work settings as well as in other settings.

Chapter III: Anticipated Outcomes and Evaluation Instruments

Goals and Expectations

The purpose of this practicum was to improve the speechreading skills of these four, mainstreamed, oral, hearing-impaired students in three different schools to at least an 80% accuracy level. The students were expected to become more confident in their speechreading ability and rely more often on speechreading in their classrooms as part of their multisensory communication modalities to receive information.

Expected Outcomes

The following outcomes were projected for this practicum:

1. All four students' speechreading abilities would improve to meet their IEP objectives at an 80% mastery level.

2. All four of them would improve their speechreading ability to at least an 80% accuracy level on words and sentences frequently spoken in their classrooms.

3. All four of them would improve their speechreading scores on word and sentence recognition tests to at least an 80% accuracy level.

4. All four of them would feel confident in their speechreading ability and would rely more often on their speechreading skills to receive information as compared to the baseline data obtained from the questionnaire.

Measurement of Outcomes

In order to document whether or not each student's IEP speechreading objective was achieved, a percentage of correct responses for each word and sentence recognition exercise was collected daily. A weekly average was calculated and recorded. These data

were used to determine if they continued to make progress by increasing correct responses to an 80% accuracy level at the end of this practicum.

An informal evaluation in the classrooms was conducted every 4 weeks to assess how well the students received information through speechreading skills. It included sentences spoken by the classroom teacher and the writer in the form of questions, directions, and instructions. The result of each evaluation was recorded. A comparison of the results was used to indicate whether they were making steady progress and performing at least at an 80% accuracy level at the end of this practicum.

The Craig Lipreading Inventory Word Recognition and Sentence Recognition tests were administered to all four of these students as pretests and posttests. The test administration guidelines were strictly followed. Comparison of the results on pretests and posttests was used to determine if they had improved their speechreading skills above an 80% accuracy level.

A questionnaire (see Appendix B) designed by the writer to gather information on the students' own perception of their speechreading confidence and usage levels was used at the end of the practicum. On a scale of 0 to 10, the students rated themselves in regard to their confidence level and their perception of how often they relied on their speechreading skills in school. A mean score was calculated to compare with the baseline data collected several months prior to this practicum.

Description of Plans for Analyzing Results

The plan for analyzing the results encompassed the interpretations of the weekly data, three informal classroom evaluations, the pre and post test results of the Craig Lipreading Inventory, and the findings of the questionnaire. If, by the end of this practicum, all four of

the students had made weekly progress during their speechreading instruction to at least an 80% accuracy on word and sentence recognition tasks, had improved their formal and informal evaluation scores to at least 80%, and had a mean score of 8 or more on a scale of 0 to 10 on their confidence and usage levels, then they would have achieved the expected outcomes.

The result analysis included examination of all factors such as the training material, the training environment, the learner's attitude, the talker's variance, and the teacher's presentation styles that contributed to either the success or failure of these four students in achieving the expected outcomes during this practicum. The data for weekly progress, formal and informal evaluation results, and questionnaire findings were presented in tables and charts with necessary statistical treatment to illustrate the progress and performance of these students throughout the practicum. A discussion was made to explain factors that may have contributed to the success or failure of any one of the students in achieving good speechreading skills.

Mechanism for Recording Unexpected Events

Each student had a portfolio included daily lessons, response records, formal and informal test results, and video recordings. A practicum journal for each student was kept to record the daily process of this practicum. Each journal had on-the-spot recording on daily lesson material and the tally of the student's correct responses. At the end of each day, the student's attitude, the factors that contributed to the success or the failure of the student's performance during the lesson, and any other unexpected events were recorded in the journal as well. Each journal was kept chronologically. Certain patterns of behavior or factors that contributed to good practices were expected to emerge from analysis of the

data in the journals. Modifications could then be made to help improve the quality of this practicum.

Chapter IV: Solution Strategy

Discussion and Evaluation of Solutions

The problem treated in this practicum is that the four, mainstreamed, oral, hearing-impaired students whom the writer serves in three different schools were poor speechreaders. They often could not receive adequate information through speechreading. In order to find solutions to this problem, a literature review of topics of issues and concerns of speechreading, speechreading training programs, speechreading for hearing-impaired children, and speechreading evaluation has been conducted to investigate the solution strategies.

Traditionally, a bottom-up analytical approach of speechreading has been used for the hearing impaired, especially for the adult population. Many textbooks have been published for this purpose. This approach emphasizes building speechreading skills on mouth movements of different sounds and different syllables. Sentences are constructed to expand the sound and syllable drills (Kaplan, Bally & Garretson, 1995). The famous Nitchie method of speechreading training, on the other hand, advocates a synthetic approach that emphasizes word recognition, homophene exercises, idiom practices, and short story comprehension (Nitchie, 1985; Carter, 1998). Yoshinaga-Itano (1988) proposed a slightly different approach of speechreading training for hearing-impaired children. He believed that a holistic top-down approach that utilizes real-life, daily, relevant, meaningful sentences and expressions for the children to speechread is a better method.

Many other researchers (Palmer, 1988; van Uden, 1988; Yoshinaga-Itano, 1988) found that instruction promoting communication and language competence should be

incorporated into speechreading training. It should involve real-life simulations, conversational activities, and situational role-playing. Improved speechreading skills can also help improve the students' overall communication and language skills ((Silverman & Kricos, 1990; Yoshinaga-Itano, 1988).

New technology is being used to provide speechreading training. Some research has been done to utilize computer technology to provide speechreading training. It is an innovative approach that provides interactive practices and instant feedback (Gagne, Dinon & Parsons, 1991; Pichora-Fuller & Bengueerel, 1991). Vibrotactile devices, such as the Gallaudet University Linear (GULIN) vocoder, help enhance severely or profoundly hearing-impaired adults' speechreading ability on open-set TV sentences (Bernstein, Demorest, Coulter, & O'Connell, 1991). Another such device with enhanced voice fundamental frequency placed on the arms of the postlingually deafened adults also helps reduce speechreading error rates (Boothroyd, 1989). Lyxell, Ronnberg, Anderson, & Linderoth (1993) also found that vibrotactile support for less skilled speechreading subjects helps improve their word discrimination and word decoding skills. Videodisc is another type of technology that provides a great deal of self-paced speechreading practice for hearing-impaired adults (Slike, Thoronton, Hobbis, Kokoska, & Job, 1995).

Utilization of commercially available video tapes for speechreading practice is another effective technique in helping improve speechreading skills (Ijsselkijik, 1992; Sims, 1988; Greenwald, 1988). The video tapes can show side views of the talker; therefore, they provide realistic practice opportunities for speechreading (Bauman, 1995). Another active speechreading training method is to integrate expressive and receptive communication

skills by having the hearing impaired speechread their own speech via videotape recording and playback (de Filippo, Simes, & Gottermeier, 1995; van Uden, 1988).

As to the speechreading environment, Small (1988) has found that distances up to 18 feet away from the speaker have no effect on how well a person can read speech and Lyxell & Ronnberg (1993) found that background noise will not significantly interfere with speechreading activities in speechreading training.

During speechreading training, speechreading instructional strategies that involve presentation of the materials with a slightly slower rate of speaking, precise articulation, appropriate gestures, and pauses are an effective way to provide practice (Ijsseldijik, 1992). Ijsseldijik (1992) also found that the amount of face being viewed and speed of the lip movements in video images used in a speechreading training program have no effect on how well a person can speechread. De Filippo (1988) also suggested a technique, tracking, in which the students are required to imitate the mouth movements to repeat verbatim what the talker is saying through speechreading. This is an effective way to improve speechreading skills.

There are many speechreading tests used to evaluate speechreading ability. The Utley Speechreading Test is a speechreading evaluation method commonly used for college students and adults (Updike, 1989). The Speechreading Test on the Utilization of Contextual Cues (STUCC) is a test for adults with acquired hearing loss (Gagne, Tugby, & Michaud, 1991). Updike (1990, 1992) has done an extensive study on the validity and reliability of the Craig Lipreading Inventory. It was administered to 150 hearing-impaired children to examine the internal validity and intertest reliability and to obtain normative

data. The results indicated that it is a reliable tool for assessing speechreading ability in children.

However, there are many speechreading tests whose validity and reliability are in question, and, since no one test can provide all the information, a combination of evaluation methods should be developed to assess the individual's speechreading ability as well as the effectiveness of the training program (Silverman & Kricos, 1990; White, Dancer, & Burl, 1996). Several studies (Yoshinaga-Itano, 1988; Palmer, 1988; Scott, 1989; Erber, 1992) indicate that informal evaluation and teacher observation are effective ways to evaluate the students' speechreading ability. A good speechreading training program should also provide adequate verbal encouragement and allow students to rate and evaluate themselves (Spradlin, Dancer, & Monfils, 1989).

Many studies have revealed the importance of speechreading training. It is the key to better communication and speechreading skills (Palmer, 1988; Silverman & Kricos, 1990; Yoshinaga-Itano, 1988). Warren, Dancer, Monfils, and Pittenger (1989) found that the practice effect in speechreading training over a 5-day period is significant enough to improve speechreading performance scores. Speechreading training, therefore, even on a short-term basis, can help improve speechreading ability.

Many ideas were generated by the literature review of the solutions. A comprehensive speechreading training program should incorporate analytical, synthetic, and holistic approaches. It should also incorporate child-directed, teacher-directed, self-evaluated, and teacher-evaluated components that emphasize real-life simulations, conversational activities, and situational role-playing. Commercially available video tapes can be used to provide practice. Videotape recordings can be made so the students can practice reading

their own speech. The students should be provided with opportunities to speechread from a side view of the talker. They should also practice speechreading in noisy and quiet environments and at various distances not exceeding 18 feet from the speaker. They should be asked to imitate the mouth movements of the speaker and repeat verbatim what the talker is saying during speechreading training activities. The speaker should use a slightly slower rate of speaking, precise articulation, appropriate gestures, and pauses during the training.

While there are many good solutions to improve speechreading skills in the hearing impaired, not all solutions and evaluation methods are applicable to these four hearing-impaired student's settings. Although many viable individual lessons can be found in the analytical and synthetic approaches, these should not make up the whole program due to their repetitive, artificial, and sometimes boring components. The holistic approach allows students to be active partners in the training program and is more appropriate for the hearing impaired. Communication and language instruction incorporated into a speechreading training program that utilizes real-life simulations, conversational activities, and situational role-playing would make the speechreading training relevant, meaningful, and interesting for these students.

Even though computer-aided speechreading training programs and videodisc programs can provide effective speechreading training, they require more time and financial resources than are available in these students' settings. Vibrotactile aids are very visible and can be so interfering with classroom activities that they would be rejected by these students.

Many commercially available speechreading training video tapes could provide opportunities for these students to practice speechreading at their own pace, and they are relatively inexpensive. Videotape recordings of the student and the teacher could provide plenty of opportunities for these students to read their own speech and their teacher's speech. The videotapes could be made without worrying about standardizing how much of the face should be viewed since this has been proven insignificant in relation to how well the students speechread. Some of the videotapes could be made with a slight side-view of the talker since in real life speech is not always read face-to-face.

Letting speechreading training take place with and without background noise at various distances not exceeding 18 feet between the talker and the students is a good idea supported by the research. Speechreading training can also take place when the classroom teachers and speech and language pathologists use a slower rate of speaking, precise articulation, appropriate gestures, and pauses in their instruction. During speechreading training, these students should be allowed to use tracking, a technique in they imitate the mouth movements of the talker and repeat verbatim what they speechread. This could help them receive immediate feedback as to whether they speechread correctly or not. In addition, verbal praise should be used as reinforcement since it is simple to use and has been proven effective.

As to the speechreading tests, the Utley Test is not appropriate for these students because the sentences involved in this test are more appropriate for college students or adults. The STUCC test is also inappropriate because it is primarily for adults who acquired hearing loss in adulthood. The Craig Lipreading Inventory is the most appropriate test for these students because it has been proven to have good reliability and

validity for hearing-impaired children. A combination of evaluation methods that include formal pre and post evaluations, informal evaluations in the classroom, daily progress monitoring, and a questionnaire should be used because they allow assessment of these students' speechreading skills in training as well as in real-life situations.

A daily speechreading training program is a great idea. The research has proved that it is the most effective way to help hearing-impaired students improve their speechreading skills.

Description of Selected Solutions

The solutions that were implemented included daily analytical, synthetic, and holistic approaches on speechreading training. This training program also incorporated communication and language instruction with videotaping and tracking techniques and provided daily opportunities for these students to practice their speechreading skills in their school environments. The Craig Lipreading Inventory was used as a formal evaluation. A variety of methods included informal classroom evaluations, daily progress monitoring, and a questionnaire were used to assess the students' performance as well as the effectiveness of the training program. The training environment allowed praise for reinforcement and different conditions that include noisy or quiet environments and various distances not exceeding 18 feet between the student and the speaker.

The solutions proposed here were related to these students' problems. The students were provided with a systematic and comprehensive speechreading training program conducted by the writer to help improve their speechreading skills. These students were also given daily opportunities by their classroom teachers and their speech and language pathologists to practice and implement their speechreading skills so that they would be

more confident and rely more on speechreading to receive information. The daily exposure to words and sentence materials used in this speechreading training program helped these students improve their communication and language competence.

There were also strong relationships between the solution strategies and the projected outcomes. Daily speechreading training helped improve these students' speechreading skills and meet their IEP objectives as measured by their daily correct responses in the training activities. The communication and language instruction they received through their classroom teachers and their speech and language pathologists was incorporated into the speechreading training program helped improve their speechreading skills in the classrooms. The techniques used in this program allowed ownership and partnership of the students and helped them increase their confidence level and rely more on their speechreading skills to receive information.

Report of Action Taken

The following actions were taken to prepare for the implementation of this practicum:

1. Necessary equipment, including a mirror commonly used by speech and language pathologists, a video camera, video tapes, and a portable TV/VCR combination set, was obtained for this practicum

2. Parental permission was obtained for each student to participate in this speechreading program as part of the student's Individual Education Program (IEP).

3. The parents of these four hearing-impaired students signed permission forms allowing the writer to videotape each of them as part of this practicum (see Appendix C).

The practicum was divided into three periods. During the pre-implementation period, these four hearing-impaired students were given a vision screening test to make sure their

vision was not a factor in their speechreading ability. Pretests were also given during this period, started 1 week prior to the speechreading training implementation.

The students followed a set training pattern each week for 12 weeks during the implementation period. The Monday of the first week was a school holiday. On the Tuesday of the first week, the students practiced recognizing the following five sounds: p, b, m, f, and v in beginning, middle, end, and combined positions, compared them with other consonants, and practiced idioms and proverbs that have these five sounds. This was an analytical approach of speechreading using Lipreading Made Easy's practice album and videotape (Greenwald, 1988). Student A was absent on this day.

On Wednesday, the students identified homophones in the category of animal words, identified homophenes such as rise-rice, merge-purge, etc., and found other homophonous and homophenous words in their textbooks. The lessons and materials came from Speechreading: A Way to Improve Understanding (Kaplan, Bally, & Garretson, 1995), Nichie's Lipreading Made Easy (1985), and the students' textbooks. Student A made up half of Monday's training by receiving an additional 15 minutes of training time.

On Thursday, the students utilizing the synthetic speechreading approach, practiced words that were difficult to speechread and moved on to sentences and short paragraphs written about the zoo. Student A was absent again on this day. On Friday, the students were videotaped while reading aloud their own writings about the zoo. The videotape, being an 8 mm tape, couldn't be played on the school VCR machine. The videotape was transferred to a standard ½ " VCR tape that night. Student A was absent on this day.

On Monday of the second week, the students practiced recognizing the following sounds: long e, short e, short a, short i, short u, and short o in the beginning, middle, end,

and combined positions, compared them with other vowels, and practiced idioms and proverbs that have these vowel sounds. Student A made up the other half of last Monday's training by receiving an additional 15 minutes of training time. On Tuesday, the students practiced recognizing look-alike numbers such as 17-70, 15-50, 13-30, etc. Student A was absent on this day. On Wednesday, the students practiced speechreading a mathematics lesson that required using numbers to do addition, subtraction, and multiplication. On Thursday, the students were videotaped reading their own mathematics assignments chosen from their mathematics homework. Additional wires were obtained and the videotape made today, along with the videotape from last Friday, was muted and played back on a VCR for them to speechread. On Friday, utilizing the holistic approach to speechreading, each student and the writer role-played a classroom scene in the student was to write down the oral instructions of a mathematics assignment. Student A was absent on this day. Student A had been absent a total of 5 days so far and only one day's training was made up. It was decided that 15 minutes would be added each day during the next 8 days for Student A to make up the four missed training sessions.

On Monday of the third week, the students practiced recognizing the following sounds: long oo, short oo, aw, wh, and w in the beginning, middle, end, and combined positions, compared them with other vowels, and practiced idioms and proverbs that have these sounds. On Tuesday, the students reviewed the homophenous and homophonous words learned in the past 2 weeks and made a folder to list and illustrate these words. In addition, Student A made up half of the lessons from Thursday of the first week on Monday, and the other half on Tuesday. On Wednesday, the students generated rhyming words and practiced recognizing them by speechreading. The students also wrote a poem

using some of the rhyming words. On Thursday, the students were videotaped reading their own poems and practiced speechreading them from video playback. In addition, Student A made up half of the lessons from Friday of the first week on Wednesday and the other half on Thursday. On Friday, the students practiced speechreading their teachers and peers in their lunch rooms.

On Monday of the fourth week, the students reviewed all the lip movements of the sounds practiced for the past 3 weeks. On Tuesday, the students identified homophenous and homophonous words from the textbooks in subject areas that they were currently studying. Student A made up half of the lessons from Tuesday of the second week on Monday and the other half on Tuesday. On Wednesday, the students practiced recognizing slogans commonly used in advertising. "Fly the friendly skies" and "You've come a long way, baby" are two examples. On Thursday, the students used the slogans they learned the day before and wrote a short commercial. They were videotaped reading their commercials and practiced speechreading them from videotape playback. Student A made up half of the lessons from Friday of the second week on Wednesday and the other half on Thursday. On Friday, the writer conducted an informal evaluation in their classrooms.

On Monday of the fifth week, the students practiced recognizing the following sounds: long u, long o, ow, oy, long i, and long a sounds in the beginning, middle, end, and combined positions, compared them with other vowels, and practiced speechreading them in idioms and proverbs that have these sounds. On Tuesday, the students practiced speechreading sentences that use words to describe things in a house from an increasing distance between the writer and the student but not exceeding 18 feet. On Wednesday, each student wrote a speechreading test and was videotaped reading the test. The

videotape was shown to another participant of this program to practice speechreading. Student A was absent on this day. On Thursday, the writer participated in each student's recess activities on the playground. Each student practiced speechreading at various distances between the writer and the student. On Friday, the writer was in the students' classrooms and each student was required to speechread the writer and the teacher. Student A made up half of Wednesday's lessons on Thursday and the other half on Friday.

On Monday of the sixth week, the students practiced recognizing the following sounds: t, d, z, and s in the beginning, middle, end, and combined positions, compared them with other consonants, and practiced speechreading them in idioms and proverbs that have these sounds. On Tuesday, the students listed names of major holidays, generated sentences describing different holidays, and recognized homophenous and homophonous words when describing different holidays. On Wednesday, the writer used the classroom teacher's handout on Columbus Day and had students practice speechreading stories about Christopher Columbus. On Thursday, each student wrote a short paragraph about Christopher Columbus, was videotaped reading the paragraph, and practiced speechreading the paragraph by watching the videotape playback. Student A was absent on this day. On Friday, the students role-played with the writer a story from their reading assignment and practiced speechreading through this role-playing.

Monday of the seventh week was a student holiday. On Tuesday of the seventh week, the students practiced recognizing the following sounds: th voiceless, th voiced, l, and n in the beginning, middle, end, and combined positions, compared them with other consonants, and practiced speechreading them in idioms and proverbs that have these sounds. On Wednesday, the students listed names of different occupations, discussed what

each occupation means, found a book about an occupation, and practiced speechreading a short paragraph from that book. Student A made up half of last Thursday's lessons on Tuesday, and the other half on Wednesday. On Thursday, the students were videotaped reading the short paragraph they read the day before. They practiced speechreading themselves from the videotapes. On Friday, the students practiced speechreading the writer and their peers in their lunch rooms where it was very noisy. The writer also participated in each student's speech and language therapy session. They practiced speechreading the writer and their Speech and Language Pathologists (SLPs).

On Monday of the eighth week, the students read about Halloween and its customs. They wrote a paragraph about their trick-or-treating experiences and practiced speechreading this paragraph. On Wednesday, the students were videotaped reading the paragraph and practiced speechreading it from videotape playback. On Thursday, the students and the writer role-played a conversation people would have at a costume party. Student A was absent on this day. On Friday, the writer conducted an informal evaluation in the students' classrooms. Student A also made up Thursday lessons after evaluation.

On Monday of the ninth week, the students practiced recognizing the following sounds: ch, j (soft g), zh, and sh sounds in the beginning, middle, end, and combined positions, compared them with other consonants and practiced speechreading idioms and proverbs that have these sounds. On Tuesday, the students compiled all the homophenes and homophones in their folders and drew pictures to illustrate these words. Student A was absent on both Monday and Tuesday. On Wednesday, the students discussed their hobbies and interests and found a book about one of their hobbies. They then answered comprehension questions from the book by speechreading the questions. On Thursday, the

students were videotaped reading a part of the book they picked the day before and practiced speechreading it from their videotapes. On Friday, the writer participated in their classroom instructions and had the students practice speechreading the writer and their classroom teachers.

On Monday of the tenth week, the students practiced recognizing the following sounds: hard c, hard g, ur, and r in the beginning, middle, end, and combined positions, compared them with other sounds, and practiced speechreading them in idioms and proverbs that have these sounds. On Tuesday, the students found homophenes and homophones from their language art textbooks and illustrated these words in their folders. On Wednesday, the students picked out a section of their social studies lesson and practiced speechreading comprehension questions from this section. On Thursday, the students were videotaped reading this section and practiced speechreading themselves from the videotape. Student A was absent on Wednesday and Thursday. On Friday, the students practiced speechreading during their social studies lesson.

On Monday of the eleventh week, the students practiced recognizing the following sounds: q, nk, ng, h, and y in the beginning, middle, end, and combined positions, compared them with other sounds, and practiced speechreading them in idioms and proverbs that have these sounds. On Tuesday, the students reviewed all the homophenes and homophones they learned so far. On Wednesday, the students discussed Thanksgiving, listed words and phrases that are related to Thanksgiving, and practiced speechreading sentences that are about Thanksgiving. On Thursday, the students were videotaped reading a short paragraph they wrote about their Thanksgiving holiday. They practiced speechreading themselves from the videotape. On Friday, the writer participated

in each student's recess activities on the playground and practiced speechreading with each of them at various distances between the writer and the student.

On Monday of the twelfth week the students reviewed all the shapes and lip movements of the sounds they have learned. On Tuesday, the students reviewed all the videotapes and practiced speechreading themselves from their videotapes. There was no school for the remainder of the week due to Thanksgiving holiday.

On Monday of the thirteenth week, the post implementation period, the writer conducted an informal evaluation the their classrooms. Student was absent on this day as well on Wednesday and Thursday while the other three completed their Form A of Word Recognition and From B of Sentence Recognition tests of the Craig Lipreading Inventory as posttests. She made up the lessons from Monday of the ninth week on Friday. The other three students also completed their questionnaires on Friday. It was decided that Student A would continue the training program by adding 3 more days next week to make up 3 missed training sessions. The writer conducted an informal evaluation in Student A's classroom after the make-up sessions were completed. The posttests were given the next day along with the questionnaire.

Each week, a list of words and sentences to be practiced the next week was given to the classroom teachers and the SLPs. A homework assignment that reemphasized what had been taught that week was also given to the students. The students were reminded constantly to use the tracking technique in which they were to repeat verbatim what the writer said during speechreading training. Verbal praise, stickers, and ice cream tickets were used as reinforcement during the training sessions. Throughout the speechreading training, the students were always given plenty of opportunities to speechread from a side

view of the talker. The talker often spoke slowly and clearly with appropriate pauses and gestures.

Three of the four students completed the speechreading training in 12 weeks as planned. One participant's frequent absences (13 days during the implementation period) due to a variety of reasons such as illness, infestation of head lice, and family problems were totally unexpected. Despite the full cooperation of her classroom teacher who allowed the student to spend additional time with the writer, she struggled to make up her academic work. Her speechreading training activities had to be delayed at times. She was given an additional 15 to 20 minutes on some days to make up the training she missed when she was absent. Additionally, 3 days were also added after the 12-week period to allow her to make up the training she missed. Her progress was slow at first, but she began to catch up during the last 4 weeks of speechreading training.

For the most part, the implementation followed the writer's calendar plan faithfully. However, the writer's camera does not allow instant playback due to its usage of an 8mm tape rather than the standard ½ " VCR tape. Additional wiring was obtained to solve this problem.

Chapter V: Results

Results

The writer's mainstreamed, oral, hearing-impaired students in three different schools often could not receive adequate information through speechreading because they were poor speechreaders. A daily 25- to 30-minute comprehensive speechreading training program was implemented for a three-month period to help improve these students' speechreading skills. This program utilized analytical, synthetic, and holistic approaches, incorporated communication and language instruction with videotaping and tracking techniques, and provided daily opportunities for implementation in the school environment. The goal of this comprehensive speechreading training program was to help these students improve their speechreading skills to at least an 80% accuracy level and feel more confident in relying on speechreading in their school environments. The specific expected outcomes were projected as follows:

1. All four students' speechreading ability would improve to meet their IEP objectives at an 80% mastery level.

To meet this goal, the students' speechreading ability was evaluated daily during their training sessions through the writer's observation and/or students' self-evaluation of correct responses. The percentage of correct responses was recorded in the student's individual journal. A weekly average of students' speechreading performances are presented in percentages in Table 1.

Student A started with 44% correct responses in week 1 and improved to 81% in week 12. Student B started with 55% correct responses in week 1 and improved to 90% in week 12. Student C started with 50% correct responses in week 1 and improved to

87% in week 12. Student D started with a 46% correct responses in week 1 and improved to 83% in week 12. All of them reached above 80% during the last 4 weeks. As shown in Figure 1, they all made steady progress throughout the implementation period.

This expected outcome was met by all four students as indicated by the data.

Table 1

Weekly Means of Correct Responses to Daily Speechreading Exercises

	Weeks 1 to 12											
	1	2	3	4	5	6	7	8	9	10	11	12
Student												
A	44	41	52	61	58	69	70	73	82	81	83	81
B	55	52	62	72	74	72	77	82	85	82	88	90
C	50	60	63	74	71	79	81	86	86	87	87	87
D	46	63	57	70	72	71	75	77	81	82	84	83

Note. The numerical value represents the weekly mean percentages of correct responses of each student in their daily speechreading exercises.

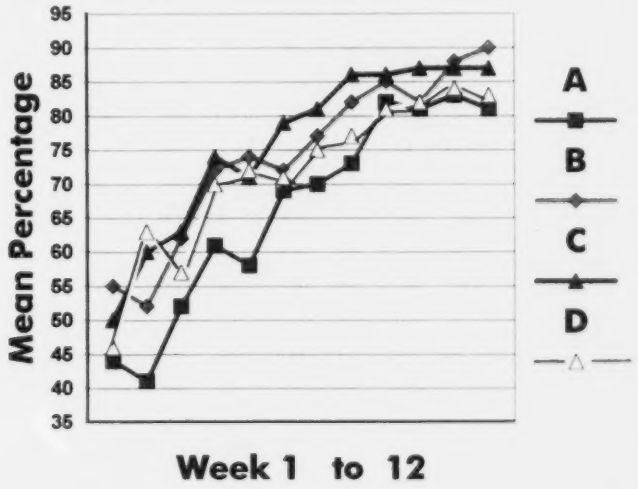

Figure 1. Weekly mean percentages of correct responses to daily speechreading exercises.

2. All four students would improve their speechreading ability at least an 80% accuracy level on words and sentences frequently spoken in their classrooms.

To achieve this goal, every 4 weeks, an informal evaluation (see Appendixes D-G) was conducted by the writer in the students' classrooms. A percentage of correct responses for each evaluation was recorded. The result is presented in Table 2.

Table 2

Results of Informal Evaluations Conducted Every 4 Weeks

	Informal Evaluation		
Student	1	2	3
A	58	73	82
B	70	78	90
C	68	85	92
D	60	75	84

Note. The numerical value represents the percentage of correct responses to 20 sentences and phrases mouthed to the student by the writer or the classroom teacher. The distance between the student and the speaker was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Student A, although having made steady progress, had the lowest percentages of correct responses in all three evaluations. Her accuracy level in percentage value was 58, 73, and 82 respectively compared to 70, 78, 90 for Student B, 68, 85, 92 for Student C, and 60, 75, 84 for Student D. All four performed above 80% on the third evaluation.

This expected outcome was met by all four students as indicated by the data.

3. All four students would improve their speechreading scores on word and sentence

recognition tests to at least an 80% accuracy level.

To determine this, the Craig Lipreading Inventory Word Recognition Form B was administered as a pretest and Form A as a posttest. The Craig Lipreading Inventory Sentence Recognition Form A was used as the pretest and Form B as the posttest. The results are listed in Table 3.

Table 3

Pre and Posttest Results of the Craig Lipreading Inventory September through December 1999

	Student			
Test	A	B	C	D
Pretest				
Word Recognition Form B	55	48	55	58
Sentence Recognition Form A	25	33	43	45
Posttest				
Word Recognition Form A	85	85	85	85
Sentence Recognition Form B	83	83	91	83

Note. The numerical value represents percent value of correct responses.

On the Word Recognition Test, Student A increased her score from 55% to 85%, Student B from 48% to 85%, Student C from 55% to 85%, and Student D from 58% to 85%. On the Sentence Recognition Test, Student A improved from 25% to 83%, Student B from 33% to 83%, Student C from 42% to 91%, and Student D from 45% to 83%. All four of them improved and achieved above 80% accuracy level in the posttests.

This expected outcome was met by all four students as indicated by the data.

4. All four students would feel confident in their speechreading ability and rely more on their speechreading skills to receive information as compared to the baseline data obtained from a questionnaire designed by the writer.

The baseline data indicate a mean score of 1.5 on how confident they felt about their speechreading skills and a mean score of 2.5 on how often they relied on their speechreading skills according to the results of the questionnaire administered to them several months prior to this training program. The same questionnaire was given to the students after this 12-week program. The result indicates a mean score of 9.75 on how confident they feel about their speechreading skills and a mean score of 9.5 on how often they rely on their speechreading skills (see Figure 2).

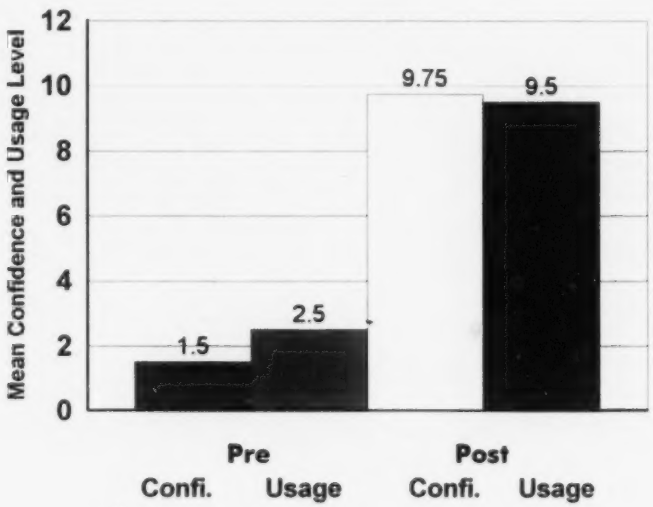

Figure 2. The questionnaire results from pre-implementation period (Pre) and post-implementation period (Post). The numerical value represents mean scores of how confident (Confi.) the students felt about their speechreading skills and how often they relied on their speechreading skills (Usage) on a scale of 0 to 10.

This expected outcome was met by all four students as indicated by the data.

Discussion

Student A's weekly average of 81% at the end of the training program and her performances on all three informal evaluations were the poorest in the group. This may be due to her frequent absences. However, her performance on the Craig Lipreading Inventory Word and Sentence Recognition posttests (85% and 83% respectively) were comparable with the others. Allowing her to make up any missed training sessions and the training itself proved to be effective.

Initially Student B was indifferent to this speechreading program. The reward system that included verbal praise, stickers, and ice cream tickets along with her intense interest in videotape activities proved to be effective in enticing her to work hard during the training. This may account for Student B making the greatest gain from pretest to posttest in the Word Recognition of the Craig Lipreading Inventory.

Comparison of the pre and post results of the Craig Lipreading Inventory Word and Sentence Recognition Tests using a 2-tailed t-test analysis indicated that all four students made significant gains due to this comprehensive speechreading training program (Word Recognition $t=-14.514$, significant at $p<0.001$; Sentence Recognition $t=-11.860$, significant at $p<0.001$). This result is consistent with other studies that showed that a speechreading training program, even if it is a short-term one, will improve the subjects' speechreading skills significantly (Warren, Dancer, Monfils, & Pitenger, 1989; Silverman & Kricos, 1990).

The most striking change that resulted from this training program is that the students rely much more on their speechreading skills in the classroom than before. The

questionnaire they answered indicates a mean score of increase from 2.5 to 9.5 on a scale of 0 to 10 in the area of how often they rely on their speechreading skills in the classroom. They feel more confident about their speechreading skills with a mean score of 9.75, a dramatic change from a mean score of 1.5 several months ago.

The data recorded in the student's individual journal gave perspectives on different training approaches. Students at times complained about the monotony of the analytical approaches of studying shapes and lip movements of different English phonemes. However, the exercises enabled the students to be more conscientious of their own articulation and helped them speechread better. The other synthetic and holistic approaches that utilized stories, contextual clues, real-life experiences, and role-playing helped made the training activities relevant and interesting. They also provided opportunities for the students to improve reading, writing, and language skills. The tracking technique was also a very effective training tool.

The journal data revealed that the contextual clues and familiarity with the speakers were very important factors for better speechreading skill. The students speechread better when they knew about the subject matter. They speechread the writer's lips better than they speechread the lips of other people in the school. They all enjoyed practicing their speechreading skills in different conditions and of various distances. Videotaping itself provided reinforcement for them to articulate better and to pay closer attention to other's mouth movements.

All the data gathered indicated that all four expected outcomes were met by all four students. This speechreading training program not only allowed the students to communicate with the writer more effectively when she was in their mainstreamed

classrooms but also provided the students with a lifelong skill to receive information in situations of insufficient auditory input. They all have expressed pride in this newfound talent and have continued to use it in and outside the school setting.

This training program would not have been successful without the cooperation of the students' classroom teachers, speech and language pathologists, and media specialists. It provided opportunities for the writer and the students to work collaboratively with different school personnel. It has built a foundation of team work for future projects and collaboration.

Recommendations

It is recommended that all four students should continue to practice their speechreading skills on a regular basis. It is also recommended that other hearing impaired students in the county have the opportunities to improve their speechreading skills utilizing this speechreading training program. A workshop will be conducted in the near future to train other teachers of the hearing impaired. Only by expanding the program to different subjects and settings will there be more suggestions for improvement of this program.

Dissemination

This practicum result will be disseminated to other teachers of the hearing impaired and speech and language pathologists in the county. It will also be presented to directors and coordinators of educational programs for the hearing impaired in the metropolitan areas in one of the Metro Coordinator Consortium Meetings during this school year.

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Appendix A

Pre-Implementation Informal Classroom Speechreading Evaluations

Student's Name: A School: B. Elementary Date: March, 4, 1998
Evaluator: the writer

25
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator. The distance between the student and the evaluator was three feet or less. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
0	1. Have you finished your homework?
0	2. Where are your crayons?
5	3. Bring your pencil and paper!
0	4. How is your baby sister?
0	5. Where is your reading book?
0	6. Give this to your Grandma!
5	7. What page you are working on?
0	8. Are you in trouble today?
0	9. Do you want to read some more?
0	10. Show me the computer.
5	11. Show me the T. V.
0	12. Show me your jacket.
0	13. Show me your school bag.
0	14. Put these in your homework folder.

__0__ 15. one you don't know?

__0__ 16. You need to finish the whole page.

__5__ 17. Do you like Math?

__5__ 18. I think this is wrong.

__0__ 19. It's time for me to go.

__0__ 20. I'll see you later.

Student's Name: B School: H. Elementary Date: March, 4, 1998
Evaluator: the writer

30
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator. The distance between the student and the evaluator was three feet or less. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Where is your paper?
0	2. Give me some paper.
2	3. Give this to your Daddy.
0	4. How is your baby sister?
3	5. I called your mother today.
5	6. Where is your science book?
0	7. What happened to Mrs. Blair?
5	8. Is she sick today?
0	9. Is she gone whole day?
0	10. Do you want to read some more?

__0__ 11. Do you like science?

__0__ 12. Who is bad today?

__5__ 13. Is Urshula bad today?

__0__ 14. What page you are working on?

__0__ 15. Show me the computer.

__5__ 16. Show me the T.V.

__0__ 17. Show me your school bag.

__0__ 18. Show me your jacket.

__0__ 19. It's time for me to go.

__0__ 20. I'll see you later.

Student's Name: C School: L. Elementary Date: March, 4, 1998
Evaluator: the writer

40
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator. The distance between the student and the evaluator was three feet or less. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
0	1. Have you finished your homework
0	2. Are you practice your ITBS today?
5	3. Please give me a piece of paper.
5	4. What page you are working on?
5	5. This is too easy.
0	6. middle school do you plan to go next year?

__0__ 7. This is the fourth grade work.

__0__ 8. Where are you going for your field trip?

__5__ 9. Who is over there?

__5__ 10. Where is the pencil?

__0__ 11. Show me the computer.

__5__ 12. Show me the T. V.

__0__ 13. Show me the school bag.

__0__ 14. Show me your jacket.

__5__ 15. I think that's wrong.

__0__ 16. Do you know what I am saying?

__5__ 17. Do you like science?

__0__ 18. Is Isiah bad today?

__0__ 19. It's time for me to go.

__0__ 20. I'll see you later.

Student's Name: D School: E. Elementary Date: March, 4, 1998
Evaluator: the writer

35
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator. The distance between the student and the evaluator was three feet or less. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
0	1. Are you practicing your ITBS today?
0	2. Is this your homework?

Appendix B

Questionnaire

Before you start to answer the questions on this form, I want you to understand some of the words used here.

Speechreading (lipreading) means the ability to understand someone's speech by looking at his mouth movements when you can not hear him very well.

Speechreading training means teacher planned activities and lessons for you to practice and improve your speechreading skills.

Auditory means listening.

Auditory training means teacher planned listening practices and activities.

On this form, you have to either circle yes or no:

Example: 1. Do you have a book bag? Yes No

Or, circle 0 to 10: (0 means "never" or "not at all", 10 means "all the time" or "very much")

Examples: 2. How often do you have homework?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

3. How much do you like chocolate ice cream?

Not at all----------Very much

0 1 2 3 4 5 6 7 8 9 10

****

Name:_____ School:_____Date:_____

1. Do you have your own hearing aids? yes no

2. How often do you wear your hearing aids at school?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

3. Do you have a FM auditory trainer? yes no

(if no, do not answer question #4)

4. How often do you wear your FM trainer?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

5. Do you rely on listening with your hearing aids or FM trainer to receive information at school?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

6. Does your classroom teacher tell you to show your attention by listening?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

7. Does your HI resource teacher tell you to show your attention by listening?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

8. Does your classroom teacher give you auditory training activities in class?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

9. Does your HI resource teacher give you auditory training activities in school?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

10. Do you feel confident in using your listening skills to receive information?

Not at all----------Very much

0 1 2 3 4 5 6 7 8 9 10

11. Do you use speechreading skills to receive information in class?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

12. Does your classroom teacher tell you to watch her lips to speechread?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

13. Does you HI teacher tell you to watch her lips to speechread?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

14. Do you receive speechreading training from your classroom teacher?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

15. Do you receive spearheading training from you HI teacher?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

16. Do you receive speechreading training from your speech teacher?

Never----------All the time

0 1 2 3 4 5 6 7 8 9 10

17. How do you feel about your speechreading skills?

Poor----------Excellent

0 1 2 3 4 5 6 7 8 9 10

18. How confident do you feel about using speechreading to receive information?

Not at all----------Very much

0 1 2 3 4 5 6 7 8 9 10

Appendix C

Parental Permission to Videotape

May 26, 1998

Dear Parents:

In order to implement the goal of improving your child's speechreading ability as indicated in your child's IEP, speechreading training videotapes will be used. Your child's speech will sometimes be videotaped so he/she can view it later to practice speechreading his/her own speech as part of the training program. After the training program is over, all the tapes will be erased or turned over to you. Please indicate your approval below if you wish to allow me to show speechreading videotapes and videotape record your child's speech.

Sincerely yours,

xxx, Teacher of the Hearing Impaired

****

Student's Name:_____

_____Yes, I give XXX County Public Schools permission to videotape my child as part of the speechreading training program.

_____Yes, I give permission for my child to view speechreading training videotapes.

_____No, I do not give permission for my child to be videotaped and to view speechreading training videotapes.

_____ Date:_____
Parent/Guardian Signature

Appendix D

Informal Classroom Speechreading Evaluations for Student A

Student's Name: A School: B. Elementary Date: 10/2/1998
Evaluator: the writer

58
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
0	1. Have you finished your homework?
0	2. Are you sick now?
0	3. Take out your pencil!
3	4. Where is your math book?
3	5. Turn to page 55.
3	6. How is your sister?
0	7. Did you finish your math problems?
5	8. What is the name of the story?
5	9. Where is your snack?
3	10. Where did you go yesterday?
5	11. Where is the glue?
5	12. Please hurry up and finish your work.
3	13. You are too slow.
5	14. Do you like P.E.?

__2__ 15. When do you have to go to Speech?

__3__ 16. We are not going to talk about that!

__0__ 17. Did you go to computer class?

__5__ 18. What happened to you yesterday?

__5__ 19. Do you like Clipper the Big Red Book?

__3__ 20. You need to do the right thing.

Student's Name: A School: B. Elementary Date: 10/30/1998
Evaluator: the writer

73
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Did you come to school yesterday?
5	2. Did you finish your homework?
5	3. Did you come to school on Monday?
5	4. Turn to page 65.
3	5. You need to read this whole page.
3	6. You need to do math 1 to 5.
5	7. What is the name of the story you're reading now?
3	8. Do you like the story "My Name is Maria Isabel"?
0	9. Why you were absent yesterday?
3	10. Did your mother check your hair?

__0__ 11. What is the next story you have to read?

__5__ 12. What happened to your arm?

__2__ 13. We need to go to the library now.

__5__ 14. What did you bring for your snack?

__5__ 15. Do you have a snack for me?

__3__ 16. Did you come here to see Ms. Schmidt?

__3__ 17. You have to do a test here.

__5__ 18. Who is your best friend?

__5__ 19. Your grandma found bugs in your hair

__3__ 20. You did a wonderful job today.

Student's Name: A School: B. Elementary Date: 12/10/1998
Evaluator: the writer

82
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. What happened to your auditory trainer?
3	2. Did you finish your morning work?
5	3. How is your Thanksgiving holiday?
5	4. What happened to your skin?
2	5. You need to do questions 21 to 30 on page 121.
5	6. Your math homework in on page 122, questions 5 to 20.

__0__ 7. Please do not scratch your skin!

__3__ 8. What kind of medicine did your doctor give you?

__5__ 9. Did your sister have the same skin problem?

__5__ 10. Your grandma needs to put medicine on you.

__5__ 11. Did your finish copying your spelling words?

__5__ 12. I heard a funny story yesterday.

__3__ 13. "Our school band wore red jacket." (from spelling sentences)

__5__ 14. "The ball bounced back and forth."(from spelling sentences)

__3__ 15. Where did you spend the night yesterday?

__3__ 16. Where is North Pole located at?

__5__ 17. It is located at Arctic Ocean.

__5__ 18. What do you want for Christmas.

__5__ 19. Do you have your snack with you?

__5__ 20. What did doctor say about your arm?

Appendix E

Informal Classroom Speechreading Evaluations for Student B

Student's Name: B School: H. Elementary Date: 10/2/1998
Evaluator: the writer

70
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Where is your social studies book?
5	2. Please sit over there.
5	3. How many stickers do you have?
5	4. Where is your speech folder?
2	5. Why do you sit in the corner?
5	6. What happened to your hearing aids?
5	7. Why you are so upset?
3	8. Take out your pencil and ready to work!
2	9. When are you going to get your report card?
5	10. What are they doing here?
5	11. Did you finish the eye test?
3	12. Show me Africa on your map.
3	13. Pay attention to your teacher.
2	14. Turn to page 255.

__2__ 15. Who is your best friend?

__5__ 16. Did you finish your homework.

__3__ 17. Separate these into three groups!

__5__ 18. You do a good job!

__0__ 19. We need to be very quiet.

__0__ 20. I need to go now, and see you later.

Student's Name: B School: H. Elementary Date: 10/30/1998
Evaluator: the writer

78
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Where is your hearing aids?
5	2. You need to take them out and wear them.
5	3. Did you have a good Halloween?
3	4. Next year, you can come to my house to do trick or treating.
5	5. What did you do on Halloween night?
5	6. What chapter are you on for Social Studies?
2	7. Tell me pages you need to study!
3	8. Look at that map, where is North America?
5	9. Are you working on your vocabulary?
5	10. When are you going to have a test?

__2__ 11. What is the definition of "colony"?

__5__ 12. The definition of "colony" is on page 150.

__5__ 13. Is this your homework?

__3__ 14. Those people are called "missionaries".

__5__ 15. When are you going to a chapter test?

__5__ 16. We can find the answer on page 151.

__2__ 17. You are great in drawing the pumpkin.

__5__ 18. Why you all have to draw a pumpkin.

__3__ 19. Who is the best artist in your class?

__0__ 20. What is your next class?

Student's Name: B School: H. Elementary Date: 11/30/1998
Evaluator: the writer

90
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Do you want to do Language Arts first?
5	2. Let's take out the "DARE" program workbook and work on the essay!
5	3. What are you writing about and what is the title of your paragraph?
5	4. Tell me about what you want to be.
5	5. I need to finish high school and college so I can be a hotel manager
3	6. What do you think a hotel manager can make a year?

___3___ 7. I think a hotel manager can make $50,000 to 100,000 a year.

___5___ 8. How is your Thanksgiving holiday?

___5___ 9. Tell me who came to your Thanksgiving dinner?

___5___ 10. Did you go out somewhere during your Thanksgiving holiday?

___4___ 11. Most New Englanders lived in villages and small towns.

___4___ 12. The village was the center of New England life.

___4___ 13. Religion played a large part in Englanders' daily lives.

___4___ 14. The minister's sermon usually lasted several hours.

___3___ 15. The center of New England homes was the fireplace

___5___ 16. Your homework in on page 245 questions 2 to 10.

___5___ 17. Do you know how to do 2-digit multiplication?

___5___ 18. When your daddy is going to have the other hearing aid fixed?

___5___ 19. Where does your daddy work?

___5___ 20. When are you going to have a Social Studies test?

Appendix F

Informal Classroom Speechreading Evaluations for Student C

Student's Name: C School: M. Middle School Date: 10/2/1998
Evaluator: the writer

68
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Take out your math book.
5	2. Turn to page 87.
2	3. Do you have questions about this?
5	4. Do you finish your homework?
5	5. What did you make for your math test?
2	6. Can you find Africa on the map?
0	7. You need to finish all the questions.
5	8. This is a bar chart.
5	9. This is a line chart.
2	10. How is your band class?
5	11. What kind of instrument are you playing now?
5	12. instrument is your favorite?
2	13. What is the name of the story you are reading now?
5	14. Do you have any homework?

__0__ 15. Why you have to leave at 2'Oclock?

__2__ 16. What kind of party you have to go?

__0__ 17. How much did you sell for the school fund raising?

__5__ 18. That is very good. What kind of prize are you getting?

__5__ 19. Who is in this party?

__3__ 20. It's time for me to go, I'll see you later.

Student's Name: C School: M. Middle School Date: 10/30/1998
Evaluator: the writer

85
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Did you show your mother the paper?
3	2. What did your mother say about you being in trouble?
5	3. How was your Halloween party?
5	4. Did you go to a haunted house?
5	5. I bet you've got a lot of candy.
5	6. My son got this much candy!
5	7. My son couldn't breathe. He had asthma last night.
2	8. He dressed like a "grimer".
5	9. My daughter said that she is too old to trick or treat.
5	10. She went to Six-Flag on Halloween night.

__5__ 11. She said she had the worst Halloween she ever had.

__3__ 12. It was a mob scene over there.

__5__ 13. Let me see your report card.

__5__ 14. What chapter are you doing on your Social Studies?

__2__ 15. Can you show me North America on the map?

__2__ 16. You are doing very well in math.

__5__ 17. I want you to stop talking too much in class.

__3__ 18. You can wait until I come to talk to me.

__5__ 19. I'm proud of you being very calm when you were in the principal's office.

__5__ 20. I'm worried about your brother's behavior.

Student's Name: C School: M. Middle School Date: 11/30/1998
Evaluator: the writer

92
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Mass will always remain the same. Weight depends on the gravity.
5	2. Do you want to show me your report card?
5	3. Why you made such a low grade on Science?
5	4. How come your reading grade is so low?
5	5. What are you working on now?
5	6. Tropic of Cancer is a line of latitude that circles the earth at 23 ½ degree north latitude.

__5__ 7. Did you turn in your yesterday's Science homework?

__5__ 8. Do you have Science homework today?

__5__ 9. The substance that has the most energy is steam.

__5__ 10. What chapter are you working on in your Science class?

__5__ 11. Why Josh is missing his class?

__5__ 12. Who made this drawing and how did they know about elephants?

__3__ 13. The animals in the drawing also lived there more than 8000 years ago.

__5__ 14. More than a fourth of Africa is desert

__5__ 15. The Niger is the longest river in Africa.

__4__ 16. Because of many different ethnic groups, there are many different language spoken.

__2__ 17. Africa developed a special style of music.

__3__ 18. In the past, most Africans lived in small groups.

__5__ 19. Your math homework is on page 165.

__5__ 20. You are a great lipreader!

Appendix G

Informal Classroom Speechreading Evaluations for Student D

Student's Name: D School: M. Middle School Date: 10/2/1998
Evaluator: the writer

60
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
3	1. Take out your math book.
5	2. Turn to page 85.
2	3. Did you finish your math homework?
2	4. What is your math grade?
5	5. How is your band calss?
5	6. Did you get your saxophone?
5	7. Did you practice your saxophone last night?
3	8. Do you know where your mother got the saxophone?
3	9. Can you find Africa on the map.
0	10. How do you do in Social Studies?
0	11. You need to study a little bit more.
5	12. What grade did you make so far?
2	13. Did you finish your vocabulary?
0	14. Is Science hard for you?

__5__ 15. How come you don't have to go to the party?

__5__ 16. How much did you sell?

__5__ 17. What happened to your hearing aid?

__0__ 18. Your hearing does not need a break!

__2__ 19. What is your favorite class?

__3__ 20. I need to go now, see you later.

Student's Name: D School: M. Middle School Date: 10/30/1998
Evaluator: the writer

75
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
2	1. So you like to read about John Glenn?
5	2. What is the spaceship he first rode?
2	3. Why were you absent yesterday?
5	4. What was wrong with you?
5	5. Did you give your mother the note?.
2	6. Tell me about your Halloween.
5	7. What did you dress like?
5	8. Where did you go to trick or treat?
4	9. What story are you reading in class?
3	10. Turn to page 55 and do questions 1-10.

__4__ 11. Can you get your hearing aid battery from Radio Shack?

__3__ 12. How is your math class and what is your average now?

__5__ 13. Do you have homework today?

__5__ 14. What did you make on your progress report?

__3__ 15. Have you made up your class work?

__3__ 16. What is your favorite kind of candy?

__5__ 17. What did your teacher just say?

__4__ 18. How is your band class doing?

__5__ 19. When are you going to have a concert?

__0__ 20. I heard you broke up with your girlfriend.

Student's Name: D School: M. Middle School Date: 11/30/1998
Evaluator: the writer

84
Total points earned

The following sentences/phrases were mouthed to the student by the evaluator or the classroom teacher. The distance between the student and the evaluator was from 3 to 12 feet. These sentences/phrases were said to the student in context.

Points earned	Sentences/phrases
5	1. Why are you late for class today?
5	2. Tell me about your PE class and what is going on in your PE class?
3	3. Do you want to show me your report card?
5	4. In classes do you make C's?
3	5. Do you have problems with your Science homework?
3	6. Matter is what the universe is made of.

___3___ 7. All matter has the general properties of mass, weight, volume, and density.

___3___ 8. The force of attraction between objects is called gravity.

___3___ 9. What is a good time to call your mother?

___5___ 10. You homework is on page 255, questions 1-10.

___5___ 11. What is your favorite magazine?

___5___ 12. Who is your favorite wrestler?

___5___ 13. Michael Jackson has 2 children. He is thinking about sending one to England for school.

___3___ 14. Africa is a large continent.

___5___ 15. There are many, many countries in Africa.

___5___ 16. The Niger River flows through the continent.

___5___ 17. What are some of the geographic features of Africa?

___5___ 18. Do you want to travel to Africa?

___3___ 19. What place do you want to travel to?

___5___ 20. Where is your favorite place to go?